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**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,

[Continued on next page]

(54) Title: **NANOFIBERS AS A NEURAL BIOMATERIAL**



(a) 100:0 (PU:CN wt. %)



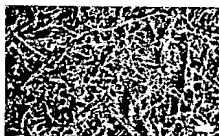
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(d) 75:25 (PU:CN wt. %)



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(57) Abstract: Nanomaterials for neural and orthopedic prostheses are disclosed. Composite carbon nanofibers enhance neuronal growth and minimize glial scar tissue formation. Methods and compositions to promote neuronal growth and minimize scar tissue formation during prolonged monitoring and treatment of neural tissue are disclosed. Composite polyurethane carbon nanofiber is a suitable material for neural implant. Composite carbon nanomaterials decrease adhesion of astrocytes and fibroblasts.

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